

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-6 are currently being prosecuted.

The Examiner is respectfully requested to reconsider his rejections in view of the remarks as set forth below.

ENTRY OF AMENDMENT

Applicants submit that the entry of the present response is proper since only remarks are being included. Accordingly, entry of the response is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1 and 3-5 stand rejected under 35 U.S.C. § 103 over Fan (U.S. Patent 6,807,342) in view Tehrani (5,430,574). This rejection is respectfully traversed.

The Examiner states that Fan shows a tunable filter having 2 optical fibers which are opposed with a high reflective layer coated on the end of the second optical fiber and a MEMS-based reflector between the two fibers. The Examiner admits that Fan lacks the collimators.

The Examiner relies on Tehrani to teach a tunable filter having a first collimator on a first optical fiber and a second columator on a second optical fiber and a mirror interposed between the collimators. The Examiner feels that it would have been obvious to one of ordinary skill in the art to use collimators as taught by Tehrani on the fibers of Fan.

Applicants submit that claim 1 is not obvious over this combination of references . First, it is pointed out that while Figure 2 of Fan shows a tunable filter using a micro-electromechanical system-based (MEM-based) resonator, the tunable filter of Figure 4 does not have such a MEM-based resonator, but instead utilizes a piezoelectric resonator. Thus, Applicants submit that only the embodiment of Figure 2

of Fan is relevant. As suggested by the Examiner, Figure 2 of Fan does not include collimators. Also, there is no multilayered film coated on the collimator. Such a layering is shown in Figure 7, which relates to the embodiment of Figure 4, but not to the embodiment of Figure 2.

Even if the teachings of Tehrani are utilized to add collimators to the optic fibers of Fan, claim 1 would still not be obvious thereover. Thus, claim 1 still requires that a high reflectivity layer is coated on the second collimator. This is not obvious over the combination of references. Further, the claim clearly states that the resonance cavity is defined between the curved lens and the second collimator. This differs from Figure 2 of Fan where the resonance frequency is determined by the length of cavity 17 as defined between the mirror 21 and the top dielectric layer 12. Even in the embodiment of Figure 4, the resonance frequency is determined by the length of cavity 17.

In the present invention, the resonance frequency is determined by the cavity defined between the curved lens and a collimator mounted on an optical fiber. Neither of the references teach the resonant frequency being determined by a distance between the curved lens and the collimator.

This type of configuration allows the resonance frequency to be easily determined by simply adjusting the distance between the collimator and the curved lens. These features are not taught as suggested by the references.

Accordingly, Applicants submit that claim 1 is allowable.

Claims 2-6 depend from claim 1 and as such are also considered to be allowable. In addition, each of these claims recite other features which make these claims additionally allowable. Thus, claim 2 describes the filter as being a heat-actuated filter. Claim 6 describes the first collimator as also having an anti-reflection layer on the end of the collimator. Accordingly, Applicants submit that these claims are also additionally allowable.

Claim 2 stands rejected under 35 U.S.C. 103 as being obvious over Fan in view of Tehrani and further in view of Domash (U.S. Published Application 2003/0072009). Claim 6 stands rejected as being obvious over Fan in view of Tehrani and further in view of Hwang (U.S. Patent 6,263,128). These rejections are respectfully traversed.

The Examiner relies on Domash to show a heat actuated type filter. The Examiner relies on Hwang to show an anti-reflective film. However, even if these references do teach these features, they still do not aid the original two references in overcoming their deficiencies. Accordingly, these claims remain allowable based on their dependency from allowable claim 1.

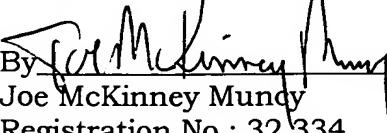
CONCLUSION

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on the Examiner, either alone or in combination. In view of this, reconsideration of the rejection and allowance of all the claims are respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: December 20, 2005

Respectfully submitted,

By 
Joe McKinney Mundy
Registration No.: 32,334
JM BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicants